

GenCore version 5.1.1.3
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OM nucleic - nucleic search, using sw model

Run on: February 16, 2003, 16:42:40 : Search time 2267.72 Seconds
(without alignments)
15566.316 Million cell updates/sec

Title: US-09-497-967-3
Perfect score: 1404
Sequence: 1 atgaaaaataatttagt.....tgattttattattattatta 1404

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 24791104 seqs, 12571243825 residues
Total number of hits satisfying chosen parameters: 49582208

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Pending_Patents_NA_Main:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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| 2 | 2 | 1404 | 100.0 | 1404 | 18 | US-09-498-612-8 |
| 3 | 3 | 1404 | 100.0 | 1404 | 18 | US-09-497-967-44 |
| 4 | 4 | 782.6 | 55.7 | 1404 | 18 | US-09-497-967-5 |
| 5 | 5 | 782.6 | 55.7 | 1404 | 18 | US-09-497-967-102 |
| 6 | 6 | 781 | 55.6 | 1404 | 18 | US-09-497-967-53 |
| 7 | 7 | 252.6 | 18.0 | 1326 | 18 | US-09-498-612-7 |
| 8 | 8 | 252.6 | 18.0 | 1326 | 18 | US-09-497-967-1 |
| 9 | 9 | 252.6 | 18.0 | 2486 | 18 | US-09-498-612-3 |
| 10 | 10 | 251 | 17.9 | 2811 | 18 | US-09-498-612-4 |
| 11 | 11 | 251 | 17.9 | 2811 | 18 | US-09-498-612-2 |
| 12 | 12 | 239.6 | 17.1 | 1193 | 3 | US-07-763-352A-2 |
| 13 | 13 | 214.6 | 15.3 | 1936 | 3 | US-07-763-352A-14 |
| 14 | 14 | 110.4 | 7.9 | 316 | 15 | US-09-196-161-1 |
| 15 | 15 | 110.4 | 7.9 | 316 | 15 | US-09-196-161-2 |
| 16 | 16 | 110.4 | 7.9 | 316 | 15 | US-09-196-161-2 |
| 17 | 17 | 103 | 7.3 | 316 | 15 | US-09-196-161-9 |
| 18 | 18 | 95.2 | 6.8 | 186935 | 67 | US-60-226-176-1976 |
| 19 | 19 | 95.2 | 6.8 | 186935 | 67 | US-60-233-468-1976 |
| 20 | 20 | 95.2 | 6.8 | 186935 | 75 | US-60-313-371-1976 |
| 21 | 21 | 92.4 | 6.6 | 7814 | 65 | US-60-226-176-1986 |

Thu Feb 20 11:10:17 2003

us-09-497-967-3.rnmpm

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| 22 | 92.4 | 6.6 | 7814 | 67 | US-60-233-468-1986 | Sequence 1986, Ap |
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| 24 | 77.4 | 5.5 | 897 | 80 | US-60-360-207-39592 | Sequence 39592, A |
| 25 | 73 | 5.2 | 138 | 18 | US-09-497-967-74 | Sequence 74, Appl |
| 26 | 68.2 | 4.9 | 123 | 18 | US-09-497-967-75 | Sequence 75, Appl |
| 27 | 66.2 | 4.7 | 104 | 18 | US-09-497-967-71 | Sequence 71, Appl |
| 28 | 65.4 | 4.7 | 961 | 80 | US-60-360-207-31796 | Sequence 31796, A |
| 29 | 64.4 | 4.6 | 186449 | 33 | US-09-881-797-715 | Sequence 715, App |
| 30 | 64.4 | 4.6 | 186449 | 38 | US-10-021-698-715 | Sequence 715, App |
| 31 | 63 | 4.5 | 540 | 1 | PCT-US00-41008-1 | Sequence 1, Appl |
| 32 | 62.8 | 4.5 | 100 | 18 | US-09-497-967-72 | Sequence 72, Appl |
| 33 | 62.8 | 4.5 | 100 | 18 | US-09-497-967-79 | Sequence 79, Appl |
| 34 | 60 | 4.3 | 60 | 18 | US-09-497-967-19 | Sequence 19, Appl |
| 35 | 60 | 4.3 | 60 | 18 | US-09-497-967-20 | Sequence 20, Appl |
| 36 | 60 | 4.3 | 1635 | 1 | PCT-US01-00663-16768 | Sequence 16768, A |
| 37 | 60 | 4.3 | 1635 | 33 | US-09-864-761-20241 | Sequence 20241, A |
| 38 | 60 | 4.3 | 1635 | 41 | US-10-182-993-16261 | Sequence 16261, A |
| 39 | 60 | 4.3 | 1635 | 41 | US-10-182-995-13387 | Sequence 13387, A |
| 40 | 60 | 4.3 | 1635 | 41 | US-10-182-997-12713 | Sequence 12713, A |
| 41 | 60 | 4.3 | 1635 | 41 | US-10-182-998-8445 | Sequence 8445, Ap |
| 42 | 60 | 4.3 | 1635 | 42 | US-10-203-134-16573 | Sequence 16573, A |
| 43 | 60 | 4.3 | 1635 | 42 | US-10-203-135-16038 | Sequence 16038, A |
| 44 | 60 | 4.3 | 1635 | 42 | US-10-203-136-16612 | Sequence 16612, A |
| 45 | 60 | 4.3 | 1635 | 42 | US-10-203-137-16768 | Sequence 16768, A |

ALIGNMENTS

RESULT 1

US-09-497-967-3

Sequence 3, Application US/09497967

GENERAL INFORMATION:

APPLICANT: Clark, Theodore G.

APPLICANT: Dickerson, Jr., Harry W.

APPLICANT: Lin, Tian-Long

TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF

TITLE OF INVENTION: ICHTHYOPHTHIRIUS

FILE REFERENCE: 235.00170101

CURRENT APPLICATION NUMBER: US/09/497, 967

CURRENT FILING DATE: 2000-02-04

PRIOR APPLICATION NUMBER: 60/131,121

PRIOR FILING DATE: 1999-04-27

PRIOR APPLICATION NUMBER: 60/118,634

PRIOR FILING DATE: 1999-02-04

PRIOR APPLICATION NUMBER: 60/122,372

PRIOR FILING DATE: 1999-03-02

PRIOR APPLICATION NUMBER: 60/124,905

PRIOR FILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 102

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 3

LENGTH: 1404

TYPE: DNA

ORGANISM: Ichthyophthirius multifiliis

US-09-497-967-3

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Best Local Similarity 100.0%; Pred. No. 0;

Matches 1404; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 121 CTGCAAAATGCTGTTAAATTTAGAAAAACCTTTTATATATAATATGCTGCTGCTTGGT 180

DB 121 CTGCAAAATGCTGTTAAATTTAGAAAAACCTTTTATATATAATATGCTGCTGCTTGGT 180

| | | | |
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| QY | 181 | CCTGGTGTAGTACGTGTACACCTTGTCCATAAAAAAGATGCTGGTCTTAACCAAT | 240 |
| DB | 181 | | |
| QY | 241 | CCACCTGTCTACTGCTAAATTTAGTACACATAATGTAACGTTAAATGCCCTGCTGACCGCA | 300 |
| DB | 241 | | |
| QY | 301 | ATTGAGGTGGAGCAACAGATATGTCAGCAATAATACAGAAATGTTAAATTTAGTAAT | 360 |
| DB | 301 | | |
| QY | 361 | AAATTTTATAATGAAATGCTCCAAATTTTAAATGAGGTGCTAGTACATGACAGCTGT | 420 |
| DB | 361 | | |
| QY | 421 | CCGGTAAACAGAGTTGGTGGTGCATTGACTGCTGTAATGCCGTACCATAGTCGCATAA | 480 |
| DB | 421 | | |
| QY | 481 | TGTAAGTGCATGCTCCTACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 540 |
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| QY | 541 | AGATCAATCACAGATGCTTAAATGTAAGTAACTTTTACTATAATGTAATTAATGCT | 600 |
| DB | 541 | | |
| QY | 601 | AATACCTCTTTCACCTGAGTAAAGTTAATGCACACCTTGTCCGGCAATTAACCTGCT | 660 |
| DB | 601 | | |
| QY | 661 | AATGTTGCTTAACTACTTAACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 720 |
| DB | 661 | | |
| QY | 721 | TGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 780 |
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| QY | 781 | TGTAATTAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 840 |
| DB | 781 | | |
| QY | 841 | AGTACATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 900 |
| DB | 841 | | |
| QY | 901 | GCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 960 |
| DB | 901 | | |
| QY | 961 | GGAGCACTAATTTATGTAATTTATTAACAGAAATGCTAAATTTGCTGCTAACTTTTAT | 1020 |
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| QY | 1021 | TTTGATGCTAATTTCTAGCAGGAAGTAGTAGATGCAAGCAATGTCAGCAATAA | 1080 |
| DB | 1021 | | |
| QY | 1081 | GTAAAGCGCTGTAGCAACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 1140 |
| DB | 1081 | | |
| QY | 1141 | GAATCCCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 1200 |
| DB | 1141 | | |
| QY | 1201 | TCTGAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 1260 |
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; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 5
; LENGTH: 1404
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: 55kd i-antigen coding region
us-09-497-967-5

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Best Local Similarity 72.5%; Pred. No. 1.2e-174;
Matches 1013; Conservative 0; Mismatches 384; Indels 0; Gaps 0;

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QY 121 CCTGCAATTTGTTAAATTTAGTATATTTATTAATTAATGCTGCTGCTTTCGTT 180
DB 121 CCTGCAATTTGTTAAATTTAGTATATTTATTAATTAATGCTGCTGCTTTCGTT 180

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DB 181 CTTGGTGTAGTACGTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 240

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DB 421 CCGGTAAACAGATTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 480

QY 481 TGTAACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 540
DB 481 TGTAACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 540

QY 541 AGATCAATTCAGAGATTTGTTAAATGTTAGATTTAACTTTTAACTTTTAACTTTT 600
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QY 601 AATCTCTCTTCAATCCAGGTAAAGTTATGACACCTTTGTCGCGCAATTTAAACCTGCT 660
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QY 661 AATGTTGCTTAAGTACTTTAGTAAATGATGCTTAACTTTTAACTTTTAACTTTT 720
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DB 841 TCTACCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 900
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DB 1141 GAATGCCCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1200
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DB 1381 TTATTGATTTCTTTATTA 1397

RESULT 5
US-09-497-967-102
; Sequence 102, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; FILE REFERENCE: 235,001,701,01
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 102
; LENGTH: 1410
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: 55kd i-antigen coding region
us-09-497-967-102

Query Match 55.7%; Score 782.6; DB 18; Length 1410;
Best Local Similarity 72.5%; Pred. No. 1.2e-174;

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| Matches 1013; Conservative 0; Mismatches 384; Indels 0; Gaps 0; | | | | | | | | | |
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| Db | 1 | ATGAGACACACATCCTGGTGATCTGATCATCTCTGTTTCATCAACACGATCAAGTCT | 60 | | | | | | |
| Qy | 61 | GCTAATTTGCTGTTGGAACTGAACTTAACACAGCCGGTAAGTTGATGATCTAGGAAC | 120 | | | | | | |
| Db | 61 | GCTAACTGCTGTGGACCGAGACCAACACCGCTGGAGGTGGAGACCTGGGAACC | 120 | | | | | | |
| Qy | 121 | CTGCAAAATGCTGAATTTAGAAAACTTTTATATATAATATGCTGCTGCTTTTCGTT | 180 | | | | | | |
| Db | 121 | CTGTGTAAGTGTGAATGTCAGAGAACTTCTACTACACACAGCTGCTGCTTTCGTT | 180 | | | | | | |
| Qy | 181 | CTGTGTTAGTACGTGACACCTTTGTCATATAAAAAAGATGCTGCTTTAACCAAT | 240 | | | | | | |
| Db | 181 | CTGGAGCTTCTACCTGTACCCCTTGCTCTCAGAGAAGGAGCGTGGAGCTACGCCTAAC | 240 | | | | | | |
| Qy | 241 | CCACTGCTACTGCTAATTTAGTACATAATGTACGTTAAATGCCCTGCTGGTACCGCA | 300 | | | | | | |
| Db | 241 | CTCTCTGCTACCGCTAACTGTTGACCCAGGTGACGTGAAGTGTCTGCTGGGAACGCT | 300 | | | | | | |
| Qy | 301 | ATTGCAGTGGAGCAACAGATTTATGCAGCAATAATCACAGAATGTTTAATTTAGAAAT | 360 | | | | | | |
| Db | 301 | ATCGCTGGAGGACTACCGACTACGCTGCTATCATCACCGAGTGTGAACGTGCGCATC | 360 | | | | | | |
| Qy | 361 | AATTTTATAATGAAATGCTCCAAATTTTAAATGTCAGTGTGTACATGCACAGCTGT | 420 | | | | | | |
| Db | 361 | AACCTTACAAACGAGACGCTCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT | 420 | | | | | | |
| Qy | 421 | CCGGTAACAGAGTGGTGGTGCATTTGACTGCTGTTAATGCGCTACCATAGTCGCATAA | 480 | | | | | | |
| Db | 421 | CTGTGAACCGGTGGAGGAGCTGTGACCGCTGGAACGCTGTACCATCGTGGCTCAG | 480 | | | | | | |
| Qy | 481 | TGTAAGCTGCATGCTCTACTGCTACTGCACITGATGATGAGTAACTACTGATTAATGTT | 540 | | | | | | |
| Db | 481 | TGTAACTGGCTTGTCTTACCAGAACCGCTCTGGACGACGGAGTGACCAACCGACTACGTG | 540 | | | | | | |
| Qy | 541 | AGATCATCACAAATGTTTAAATGACACTTAATTTTACTATAATGTTAAATAATGTT | 600 | | | | | | |
| Db | 541 | CGCTCTTTACCGAGTGTGTGAAGTGTGCGCTGAACTTCTACTACACGGAACACCGGA | 600 | | | | | | |
| Qy | 601 | AATACTCCTTTCAATCCAGTAAAGCTTAATGCACACCTTTGTCGGCAATTTAAACCTGCT | 660 | | | | | | |
| Db | 601 | AACACCCCTTTCAACCTGGAAGTCTCAGTGTACCCCTTGTCTCTATCAAGCCTGCT | 660 | | | | | | |
| Qy | 661 | AATGTTGCTTAAGTACTTTAGTAAATGATGCTACAAATTAACCGCATATGTAACGTTGCA | 720 | | | | | | |
| Db | 661 | AACGTGGCTCAGGCTAGCCCTGGGAAACGACGCTACCATCACCGCTCAGTGTAACTGGCT | 720 | | | | | | |
| Qy | 721 | TGCCCTGATGCTACTATAAGTGTGCTGGAGTAAATTAATTTGGTAGCACAAAACACTGAA | 780 | | | | | | |
| Db | 721 | TGTCCTGACGGAACCATCTCTGCTGTGGAGTGAACAACTGGTGGCTCAGAACCCGAG | 780 | | | | | | |
| Qy | 781 | TGTACTAATTTGCTCCTTAATTTTACAATAATTAATGCTCTCTTAATTTCAATCCAGTAA | 840 | | | | | | |
| Db | 781 | TGTACCAACTGTGCTCTTAATTTTACAACAACAGCTCTTAATTTCAACCTCGAATC | 840 | | | | | | |
| Qy | 841 | AGTACATGCTTACCTGCCCCAGCAATAAGATTAATGTTGCTGAAGCCACTGCAGGTGT | 900 | | | | | | |
| Db | 841 | TCTACTGTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 900 | | | | | | |
| Qy | 901 | GCCGCTACTTTAGCAATAATGTAATTTATGTCATGCGCTGATGGTACTGCAATGCTAGT | 960 | | | | | | |
| Db | 901 | GCTGCTACCTTGGTGAAGCAGTGTAACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 960 | | | | | | |
| Qy | 961 | GGAGCACTAATTTAGTAATTAATTAACAGATGCTTAATTTGCTGCTACTACTTTTAT | 1020 | | | | | | |
| Db | 961 | GGAGCTACCAACTAGTGTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT | 1020 | | | | | | |
| Qy | 1021 | TTTGATGCTAATAATTTCTAGCGAGGAGTAGTAGATGCAAGCATGTCACGCAATAAA | 1080 | | | | | | |
| Db | 1021 | TTTCAGCGGAACAACCTTCCAGGCTGGATCTCTCGCTGTGAAGCTTGTCTGCTAACAAG | 1080 | | | | | | |

| | | | | | | | | | |
|----|------|---|------|--|--|--|--|--|--|
| Qy | 1081 | GTTTAAGCGCTGTAGCAACTGCAGTGGTACTGCTACTTTAATTCATAAATGTGCCCTT | 1140 | | | | | | |
| Db | 1081 | GTGAGGAGCTGTGGCTACCGCTGGAGGAACCGCTACCCGTGATCGCTAGTGTGCTCTG | 1140 | | | | | | |
| Qy | 1141 | GAATGCCCTGCTGGTACTGTACTCACCAGTGGACACATCTACTTATAAATAAGCAGCA | 1200 | | | | | | |
| Db | 1141 | GAGTCTCTGCTGGAACCGTGTGACCGAGGAACCGCTCTACCTACAAGCAGGCTGCT | 1200 | | | | | | |
| Qy | 1201 | TCTGAATGTTAAATGTGCTGCCAACTTTTATACTACAAAATAAACTGATTTGGGTAGCA | 1260 | | | | | | |
| Db | 1201 | TCTGAGTGTGGAAGTGTGCTGCTTAACCTTCTACACCAACCAAGCAGCAGCTGGTGGCT | 1260 | | | | | | |
| Qy | 1261 | GGTATTGTATACATGCTAGTGTGTAATAAAAAATAAATTAACCTTCTGCGCTGAAGCTAATTA | 1320 | | | | | | |
| Db | 1261 | GGAACTCGACACCTGTACCTCTTTAAACAAGAAGCTGACCTCTGGAGCTGAGGCTAACCTG | 1320 | | | | | | |
| Qy | 1321 | CCTGAATCTGTAAAAAATAATATATATGATTCGCTAATTTTATCAATTTCCCTTA | 1380 | | | | | | |
| Db | 1321 | CCTGAGTCTGCTAAGAAGAACATCCAGTGTGCTTCCGTAACCTCTCTCTCTCTG | 1380 | | | | | | |
| Qy | 1381 | TTATTGATTTCTTAATTA | 1397 | | | | | | |
| Db | 1381 | CTGCTGATCTCTACTA | 1397 | | | | | | |

RESULT 6

US-09-497-967-53

Sequence 53, Application US/09497967

GENERAL INFORMATION:

APPLICANT: Clark, Theodore G.

APPLICANT: Dickerson, Jr., Harry W.

APPLICANT: Lin, Tian-long

TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF

TITLE OF INVENTION: ICHTHYOPHITHIRIUS

FILE REFERENCE: 235, 00170101

CURRENT APPLICATION NUMBER: US/09/497,967

CURRENT FILING DATE: 2000-02-04

PRIOR APPLICATION NUMBER: 60/131,121

PRIOR FILING DATE: 1999-04-27

PRIOR APPLICATION NUMBER: 60/118,634

PRIOR FILING DATE: 1999-02-04

PRIOR APPLICATION NUMBER: 60/122,372

PRIOR FILING DATE: 1999-03-02

PRIOR APPLICATION NUMBER: 60/124,905

PRIOR FILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 102

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 53

LENGTH: 1404

TYPE: DNA

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: Description of Artificial Sequence: synthetic G5

OTHER INFORMATION: proline mutant i-antigen

US-09-497-967-53

Query Match 55.6%; Score 781; DB 18; Length 1404;
Best Local Similarity 72.4%; Pred. No. 2.9e-174;
Matches 1012; Conservative 0; Mismatches 385; Indels 0; Gaps 0;

| | | | |
|----|-----|--|-----|
| Qy | 1 | ATGAAAAATAATATTATTAGTAATATTGATTATTTCATTTATTTATCAATTTAAATTAATCT | 60 |
| Db | 1 | ATGAAGAACACATCCCGGTGATCCTGATCATCTCTGTTTCATCAACCAAGATCAAGTCT | 60 |
| Qy | 61 | GCTAATTTGCTGTTGGAAGTGAACACACAGCCGGATAAGTTTGTATGATCTAGGAAC | 120 |
| Db | 61 | GCTAATTTGCTGTTGGAAGTGAACACACAGCCGGATAAGTTTGTATGATCTAGGAAC | 120 |
| Qy | 121 | CCTGCAATTTGTTAATTTGTAGAAAACTTTTATATATAAATGCTGCTGCTTTTCGTT | 180 |
| Db | 121 | CCTGCTAACTGTGTGAACTGTACAGAACTTCTACTACAAACACGCTGCTGCTTTTCGTT | 180 |

; CURRENT APPLICATION NUMBER: US/09/498,612
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: PCT/US00/02966
; PRIOR FILING DATE: 2000-02-04
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
; LENGTH: 2811
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: pBIC3 construct
US-09-498-612-3

Query Match 17.9%; Score 251; DB 18; Length 2811;
Best Local Similarity 56.6%; Pred. No. 1.7e-48;
Matches 659; Conservative 0; Mismatches 395; Indels 111; Gaps 6;

QY 344 GTGTTAATTGTAGAATTAATTTTATAATGAAATGCTCCAAATTTTAATGAGGTGCTA 403
DB 1163 GTGCTGCTTAAGGAGAAGCTAATGGTAATTAACCTTTTCGCGCAATAATGCTGTAGAG 1222
QY 404 GTACATGCACAGCTGTGCGGTAACAGAGTGTGGTGCATTGACTGTGGTAAATGCGG 463
DB 1223 GTATATGTGTACCATGCCAATAAACAGAGTAGGCTCTGTACCATGCAGGTGACTTAG 1282
QY 464 CTACCATAGTCGCATAATGTAACGTCGCATGCTCCTACTGTGTACTGTACATGTATGAGGAG 523
DB 1283 CTACTTTAGCCACATATGCAGTAGTACTTAATGCTCTACTGCGCACTGCACTGTATGAGGAG 1342
QY 524 TAACACTGATTTGTTAGATCATTCACAGAACTGTGTAATGTAGACTTAACCTTTTACT 583
DB 1343 TGACAGATGTTTTGATAGATCAGCCGATAATGTTGTAATGCAACCTTAACCTTTTACT 1402
QY 584 ATAATGGTAATAATGGTAATGTAATCTCTTCAATCCAGGTAAAGCTTAATGACACCTTGTG 643
DB 1403 ATAAATGGTGGTCTCTTAAAGTGAAGCTCTGCGGTTTAAAGTTTGTGCTGTGCTG 1462
QY 644 CGGCAATTAACCTGCT-----AATG 664
DB 1463 CGGCTGCAGGTGTTGCTGCGGTTTACTAGTTAATGTGTAACCTTGCCAACTAAACAAACG 1522
QY 665 TTGCTTAAGCTACTTTAGTGAATGATGCTACAATAAGCCGATATGTAACGTTGCGATGCC 724
DB 1523 ATTCTCTGCCACTGCAGTGCCTAAGCTAATTTAGCCACATAATGTAGCAATTAATGTC 1582
QY 725 CTGATGGTACTATAAGTGTGCTGGAGT---AAATAATTTGGGTAGCACAACACACTGAAT 781
DB 1583 CTACTGGCACTGTACTGTATGATGGAGTGACACTGTTTTTAAATACATGACCCACATTAT 1642
QY 782 GTACTAATTTGTGCTCTACTTTTACAATAATAATGCTCTCTTAAT-----826
DB 1643 GTGTTAAATGCAGACCTTAACCTTTTACTATATAGTGGTTCCTTAAGGTGAAGCTCCTG 1702
QY 827 -----TCAATCCAGGTAAATAGTACAT 847
DB 1703 GCGTTTAAAGTTTGTGCTGCTGCGCTGCGCTGCAAGGTGTTGCTGCGGTTACTAGTAAAT 1762
QY 848 GCCTACTTGGCCAGCAATAAGATTATGGTGAAGCCGACTGCAGGTGGTGCAGGCTA 907
DB 1763 GTGTACTTGGCCAAATAAACAACAAAGATTCCTCT---GCCTCTGCAGGTGCTCAAGCTA 1819
QY 908 CTTTAGCCAAATAATGTAATTTGATGCCCTGTGATGGTGAATGCTAGTGGAGCA 967
DB 1820 ATTAGCCACATAATGAGTACTTAATGTCCCAACTGGCACTGCAATTTCAAGACGAGTAG 1879

QY 968 CTAATTATCTAATATTATAAAACAGAAATGCTAAAAATTTGTGCTGAACCTTTTATTTGATG 1027
DB 1880 CACTTGTGTTTTAGTAATTCATCCACATAATGCTCTTAATGCAATGCTAAATTACTTTTTTA 1939
QY 1028 GTAATAAATTTCTAGCAGGAAGTAGTAGATGCAAGCATGTCAGCAAAATAAAGATTTAAG 1087
DB 1940 ATGGTAATTTTCGAGCAGGTAAAGTTAAAGTTTAAAGTGTCCAGTAAAGTAAACT---A 1996
QY 1088 GCGCTGTAGCAACTGCAGGTGGTACTGCTACTTTTAAATGTCATAATGTGCCCTTGAATGCC 1147
DB 1997 CTCAGCACATGCTCCAGGTAATACTGCTACTTTAAGCCACATAATGTTTGACCAATGTC 2056
QY 1148 CTGCTGCTACTGTACTACCCGATGGAACAACATCTACTTACTTATAAATAACAGCATCTGAAT 1207
DB 2057 CTGCTGCTAGTACTGTATGATGGAACATCACTAAATTTGTAGCTTCCGCAACTGAAT 2116
QY 1208 GTGTTAAATGTGCTGCCAATCTTTTATATACAAATAAACAATGATTTGGGTAGCAGGTATTG 1267
DB 2117 GTACTAAATGTTCTGCTGGCTTTTGTGCATCAAAACAACACTGGTTTTACAGCAGGTACTG 2176
QY 1268 ATACATGCTACTGCTTAATAAAAAATTAACCTTCTGGCGCTGAAGCTAAATTTTACCTGAAT 1327
DB 2177 ATACATGCTACTGATGTACTAAAAAATTAACCTTCIGGTGCCACAGCTAAAGTATATGCTG 2236
QY 1328 CTGCTRAAAAAAATATATAATG-----TGATTTCCGCTAAATTTTATCAATTTCTCT 1378
DB 2237 AAGCTACTCAAAAAGTATATGCGCTCCACTACTTTTCTGCTAAATTTTATCGATTTCTCT 2296
QY 1379 TATTATTGATTTCTTATTATTATTATT 1403
DB 2297 TATTATTATTATTCTTCTCTATTATTATT 2321

RESULT 11
US-09-498-612-4/c
; Sequence 4, Application US/09498612
; GENERAL INFORMATION:
; APPLICANT: GAERTIG, Jacek
; APPLICANT: DICKERSON JR., Harry W.
; APPLICANT: CLARK, Theodore G.
; APPLICANT: THE UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC
; TITLE OF INVENTION: RECOMBINANT EXPRESSION OF HETEROLOGOUS NUCLEIC ACIDS IN
; TITLE OF INVENTION: PROTOZOA
; FILE REFERENCE: 235.00100101
; CURRENT APPLICATION NUMBER: US/09/498,612
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: PCT/US00/02966
; PRIOR FILING DATE: 2000-02-04
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 2811
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Complement of
; OTHER INFORMATION: pBIC3 3 vector construct
US-09-498-612-4

Query Match 17.9%; Score 251; DB 18; Length 2811;
Best Local Similarity 56.6%; Pred. No. 1.7e-48;
Matches 659; Conservative 0; Mismatches 395; Indels 111; Gaps 6;

QY 344 GTGTTAATTGTAGAATTAATTTTATAATGAAATGCTCCAAATTTTAATGAGGTGCTA 403

Thu Feb 20 11:10:17 2003

us-09-497-967-3.rnmp

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QY 524 TAACTACTGATTATGTTAGATCAATCAGAGATGTGTTAAATGATGAGACTTAACCTTTTACT 583
Db 299 TGCAGATGTTTTTGTATAGATCAGCGCATATATGTTTAAATGCAAACTTAACCTTTTACT 358
QY 584 ATAATGGT-----AATAATGGTAAATGACTCCTTTCAATC 616
Db 359 ATAATGGTGTCTCTCTTAAGGTGAAGCTCCCTGGCGTTTAAAGTTTTCCTGCTGGTCTG 418
QY 617 CAGGTAAGGTAATGACACACTTTCGGCAATTAACCTGCTAATGTTGCTTTAAGCTA 676
Db 419 CCCTCAGGTGCCTAAGCTAATTTAGCCACATAATGTAGCAATTAATGCTTACTGGCA 478
QY 677 CTTTAGGTAATGATGCTACATAAACCAGCAATAATGAAGCTTGATGCGCTCATGCTACTA 736
Db 479 CTGACTTGATGATGAGTGACACTGTGTTTAAATACATCAGCCACATTAATGTGTTAAAT 538
QY 737 TAAGTGTCTGAGTAATAATTTGGTAGCACAAACACTGAATGTACTAATTTGTGCTC 796
Db 539 GCAGACTAACTTTTACTATAATGGTGTGCTTCCCTTAAGTGAACTCCTGGCGTTTAAAG 598
QY 797 CTAACCTTTTACAATAATGCTCTCTTAATTTCAATCCAGGTAAATAGTACATGCTTACCTT 856
Db 599 TTTTGTGCTGTGCTGCGCTGCAGGTGTTGCTGCGCTTACTAGTTAATGTGTACCTT 658
QY 857 GCCAGCAATAAAGATTATGCTGCTGAAGCCACTCCAGGTGCTGCGCTACTTTAGCCA 916
Db 659 GCCAACTAAACAAAACGATTCCTT---GCCACTGCAGTGCCTTAAGCTAATTTAGCCA 715
QY 917 AATAATGTAATATGCTGCTGATGCTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 976
Db 716 CATATGCACTACTTAATGCTCAACTGGCAGTGCATTAATCAAGCAGGAGTACACTTGT 775
QY 977 TAATATTATAACAGAAATGCTAAATTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1036
Db 776 TTAGTAATTCATCACATAATGTTCTTAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 835
QY 1037 TCTAGGAGGAGTGTAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1096
Db 836 TCGAGCAGGTAAGGTAATGTTTAAAGTGTCCAGTAACT---ACTCCAGCAC 892
QY 1097 CAACTGCAAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1156
Db 893 ATGCTCCAGGTAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 952
QY 1157 CTGCTACCCAGTGAACACATCTACTTATAATAAAGCAGCATCTGAATGTTTAAAT 1216
Db 953 CAGTACTTGATGATGAGATCACTAATTTGTAGCTTCCGCACTGAATGCTACTAAAT 1012
QY 1217 GTGCTGCCAAGCTTTTATCTACAAAATAAATAAAGTGGTGGTGGTGGTGGTGGTGGT 1276
Db 1013 GTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1072
QY 1277 CTAGTTGTAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAA 1314
Db 1073 CTGAATGTAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAA 1110
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RESULT 13
US-07-763-352A-14
; Sequence 14, Application US/07763352A
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Harry W.
; TITLE OF INVENTION: ICH IMMOBILIZATION ANTIGEN AND FISH
; TITLE OF INVENTION: VACCINE
; NUMBER OF SEQUENCES: 15
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Greenlee and Winner
; CITY: Boulder
; STATE: Colorado
; COUNTRY: USA
; ZIP: 80303
```

```
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/763,352A
FILING DATE: 19910920
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Feiber, Donna W.
REGISTRATION NUMBER: 33,878
REFERENCE/DOCKET NUMBER: 15-91
TELECOMMUNICATION INFORMATION:
TELEPHONE: 303/499-8080
TELEFAX: 303/499-8089
TELEX: 823189
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 1936 base pairs
TYPE: NUCLEIC ACID
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: cDNA to mRNA
FEATURE:
NAME/KEY: mat_peptide
LOCATION: 88..1269
FEATURE:
NAME/KEY: sig_peptide
LOCATION: 28..88
FEATURE:
NAME/KEY: CDS
LOCATION: 28..1272
OTHER INFORMATION: /codon= (seq: "taa", aa: Gln)
OTHER INFORMATION: /codon= (seq: "tag", aa: Gln)
US-07-763-352A-14
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Query Match 15.3%; Score 214.6; DB 3; Length 1936;
Best Local Similarity 55.4%; Pred. No. 6.2e-40;
Matches 591; Conservative 0; Mismatches 374; Indels 102; Gaps 5;

QY 344 GTGTTAATTTAGATAATTTTATAATGAAATGCTCCAAATTTTAAATGAGGTGCTA 403
Db 194 GTGCTGCTTAAGGAGAAGCTAATGTTAATTAACCTTTTCGAGCAAAATAATGCTGTAG 253
QY 404 GTACATGCACAGCTTTCGGTAAACAGAGTTGTTGGTGCATTGCTGCTGTAATGCCG 463
Db 254 GTATATGTGTACCAATGCAATTAACAGAGTAGGCTCTGTTACCAATGAGGTGACTTAG 313
QY 464 CTACCATAGTCGCATAATGTAACCTGCGCATGCTCTACTGCTACTGCATGATGATGGAG 523
Db 314 CTACTTTAGCCACATATGCACTACTTAATGTCCTACTGCGCACTGCACTGATGATGGAG 373
QY 524 TAACTACTGATTATGTTAGATCATTACAGAAATGTTAATGATGAGCTTAACCTTTTACT 583
Db 374 TGACAGATGTTTTTGTATAGATCAGCGCATAAATGTGTTAAATGCAAACTTAACCTTTTACT 433
QY 584 ATAATGGTAAATGTTAATGTTAATGTTAATGTTAATGTTAATGTTAATGTTAATGTTAAT 643
Db 434 ATAATGGTGGTGTCTCTTAAAGGTGAAGCTCCTGCGCTTAAAGTTTTCCTGCTGGTCTG 493
QY 644 CGGCAATTAACCTGCT-----AATG 664
Db 494 CGCGTGCAGGTGTTGCTGCGCTTACTAGTTAATGTTACCTTGCCAACTAAACAAAACG 553
QY 665 TTGCTTTAAGCTACTTTTAGTAAATGATGCTACAATAACCGCATATATGTAAGCTTGCAATGCC 724
Db 554 ATTCTCCTGCCACTGCAGGTGCTTAAGCTAATTTAGCCACATAATGTAGCAATATGAGCAATTAATGTC 613
QY 725 CTGATGCTACTATAAGTGTCTGCTGGAGT---AAATAATTTGGGTAGCACAAACACTGAAT 781
Db 614 CTACTGGCACTGCTACTTGTATGATGAGGTGACACTGTTGTTTTTAAATACATCAGCCACATTAT 673
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[illegible]

| | Query Match | 7.9% | Score 110.4; | DB 15; | Length 316; |
|----|-----------------------|--|--------------------|-----------|-------------|
| | Best Local Similarity | 65.3%; | pred. No. 1.5e-15; | | |
| | Matches 162; | Conservative 0; | Mismatches 86; | Indels 0; | Gaps 0; |
| QY | 344 | GTCTTAATGTTAGAAATTATTTTTTATATGAANAATGCTCCAAAATTTTAAATGCAGGTGCTA | 403 | | |
| | | | | | |
| Dd | 2 | GTCTGCTTTAAGGAGAAGCTAATGCTAATAATCAACCTTTTCGCAGCAAAATATGCTGCTAGAG | 61 | | |
| QY | 404 | GTACATGCACAGCTTTGTCGGCTAAACAGAGTTGGTGCTGTCATTGCTGCTGTAATGCCG | 463 | | |
| | | | | | |
| Dd | 62 | GTATATGTGTACCATGCCAAATAAACAGAGTAGAGCTCTGTTACCAATGCAGGTGACTTAT | 121 | | |
| QY | 464 | CTACCATAGTCCCATATGTAAACCTCGCATGTGCTCTACTGGTACTGCACTTGATGATGGAG | 523 | | |

